

## OPTIMALLY BLENDED LOBATTO METHODS FOR CONSTRAINED DYNAMICAL SYSTEMS

**Gregory M. Hulbert**

University of Michigan  
2250 G.G. Brown  
Ann Arbor, MI USA 48109-2125  
hulbert@umich.edu

**Key Words:** *Computational Dynamics, Time Integration Methods*

### ABSTRACT

This talk presents the application of Optimally Blended Lobatto Methods for constrained dynamics problems. Of particular focus is the choice of the blending parameter and the error estimation and time step control. Techniques are presented to adapt the blending parameter to the dynamics of the problem under study.

The blended Lobatto methods are compared to recently developed algorithms on a variety of benchmark problems to assess the relative performance of the methods.